RE: W.R. GRACE & CO.
CHAPTER 11 BANKRUPTCY PROCEEDINGS
EXPERT REPORT OF GORDON SPRATT, M. ENG., P. ENG.

THE USE OF ASBESTOS-CONTAINING SURFACING MATERIALS, INCLUDING W.R. GRACE'S PRODUCTS, IN CANADA FROM 1960 TO 1975

I. INTRODUCTION

A. Scope of Report

I have been retained by the law firm of Kirkland & Ellis LLP, counsel for W.R. Grace & Co., to provide my opinions on the following issues:

1. Was the use of W.R. Grace's asbestos-containing sprayed fireproofing Monokote MK-3 ("MK-3") and asbestos-containing acoustical plaster consistent with industry practice and the state-of-the-art in Canada during the period of 1960 to 1975, inclusive (the "Relevant Time Period")?

2. Was the use of W.R. Grace's asbestos-containing MK-3 and asbestos-containing acoustical plaster prohibited by regulation in Canada during the Relevant Time Period?

3. What was the utility of W.R. Grace's asbestos-containing MK-3 and acoustical plaster during the Relevant Time Period?

B. Qualifications of Gordon Spratt, M. Eng., P. Eng.

(a) Overview

I have been practicing as a consulting engineer since graduating with my first degree in 1953. As part of my practice, I have worked on approximately 10,000 building projects across Canada, providing consulting engineering services in several areas, but primarily in the areas of construction materials. In so doing, I have worked closely with federal, provincial and municipal governments and regulatory bodies, as well as with owners, project managers, architects, engineers, specification writers, contractors and fire protection engineers. I have performed and managed laboratory research into construction materials, taught at universities and technical colleges, and delivered papers to a number of professional bodies related to the building and construction industry. As part of my practice, I have provided expert reports and testimony in more than 350 cases. I have carried out my professional work in every province and territory of Canada except Prince Edward Island, Canada's smallest and least industrialized province.

(b) Education

I received a Bachelor of Civil Engineering degree from McGill University in Montreal in 1953. While working in the profession, I then completed a Master's Degree in Structural Engineering, with a specialization in concrete engineering, receiving the degree from McGill in 1956. I have also undertaken post-graduate studies in geotechnical, seismic and computer engineering at McGill and the University of British Columbia.

While working as a professional engineer, I have continued my education by attending numerous conferences on building technology and by the regular study of technical journals produced by bodies such as the American Society for Testing Materials, American Concrete Institute and the National Research Council of Canada.

(c) Professional Designations and Memberships

I am currently registered as an engineer in the Province of British Columbia and the State of Washington and have previously been registered in the provinces of Saskatchewan, Manitoba, Ontario, Quebec and Newfoundland. I am a member of the Engineering Institute of Canada and the American Concrete Institute and was a founding member of the Building Envelope Council of British Columbia.

(d) Professional Experience

I began my professional career as Assistant to the Chief Engineer at Warnock-Hersey in Montreal, Quebec, where I was responsible for the firm's laboratories, chemical and physical, and for its materials consulting department; I also conducted fire tests for construction materials. In 1957, I was hired as the chief engineer and operations manager of MacDonald & MacDonald Ltd. In Vancouver, B.C. where I provided supervision and technical guidance to a staff of approximately 50 inspectors and technicians who were involved in laboratory and field work in various aspects of building construction. From 1960 to 1964, I was the Chief Engineer of Coast Eldridge Ltd. That company was four times the size of MacDonald & MacDonald, and it had extensive laboratories for chemical and physical testing, which I oversaw.

In 1964, I formed my own company, Gordon Spratt and Associates ("GSA"), which I continued to operate until 2001. The period from the mid-1960s to the mid-1970s was a time of significant growth in Vancouver, involving major residential and commercial construction. GSA provided consulting engineering services to all of the major residential high-rise projects in the city's downtown as well as to many commercial projects. GSA had six offices in British Columbia and offices in Calgary and Edmonton, Alberta, Winnipeg, Manitoba, and Toronto, Ontario, and provided structural and materials engineering services to projects in every Canadian province, except Prince Edward Island. GSA's engineering services included fire investigations and building repairs, preparing technical reports and advising owners on issues related to remediation of leaky residential buildings.

Since 2001, I have worked as chief engineer of Spratt Emmanuel and Associates, consulting engineers. My duties are virtually the same as those I carried out with GSA.

From 1954 to the present, I have had involvement with asbestos-containing materials on a regular basis. On hundreds of new structures, I have been the engineer responsible for fireproofing consultation, field reviews and testing.

(e) Teaching and Publications

In the 1960s, I developed and taught the Concrete Engineering course at the British Columbia Institute of Technology. I also taught at the Amalgamated Construction Association of B.C. – an organization of several large construction companies; I developed and taught classes in Concrete Technology and Forming Systems to senior staff and superintendents. Between 1968 and 1978, I lectured at the University of British Columbia School of Architecture on subjects including the failure of building materials.

I have delivered more than 100 speeches and papers to professional groups, including the Architectural Institute of B.C., the Vancouver and Calgary chapters of the American Concrete Institute, the Amalgamated Construction Association of B.C. and the Canadian Homebuilder's Association. I have also made technical presentations to the Building Owners Management Association, the Real Estate Board of Vancouver, the Association of Professional Engineers of British Columbia, and to staff members of many major construction companies (e.g., Ledcor, PCL, Smith Brothers & Wilson, Dominion Construction, and Lafarge), and more than two dozen concrete supply companies.

(f) Expert Witness

For more than 50 years, I have been an expert witness in more than 350 cases, providing assistance to courts in a number of areas, including construction standards, material evaluation and standards, and remediation costs and techniques.

I am attaching my *curriculum vitae* as Exhibit "A".

My hourly fee for providing this report was $250.00 Canadian.

II. INDUSTRY PRACTICE

In Canada, throughout the Relevant Time Period, surfacing materials manufactured for installation in buildings, such as sprayed fireproofing and acoustical plaster, very commonly contained asbestos. That fact was well-known in the building industry in Canada. Indeed, there were a multitude of other asbestos-containing products being used in construction, including, for example, vinyl asbestos floor tile, piping, flat and corrugated roofing and wall sheets, paint systems, roofing felts, pipe and boiler lagging (wrap), fluorescent light ballasts and materials to protect electrical switch gear. During the Relevant Time Period, it was the common practice of design professionals and specifications writers to specify and detail asbestos-based products for their building projects.

Later in the Relevant Time Period, in the early-to-mid 1970s, some asbestos-free surfacing materials became available on the market. There was initially some resistance by the Canadian building industry to the use of these new products, which lacked the

"track record" of the asbestos-containing products. Moreover, design professionals, specification writers, contractors and others involved in the construction process expressed concerns that the early formulations of the asbestos-free alternatives had inferior qualities compared to the asbestos-containing products. For example, the asbestos-free surfacing materials had, at first, problems of adhesion and cohesion that meant that they did not remain in place as well as the asbestos-containing formulations. In particular, the exemplary record of W.R. Grace's asbestos-containing cementitious fireproofing, MK-3, led many design professionals and specification writers to continue to mandate its use in new building projects, despite the availability of asbestos-free alternatives, including W.R. Grace's asbestos-free formulations of Monokote. (I understand that MK-3 ceased production in Canada in 1975.)

III. REGULATORY STANDARDS

During the Relevant Time Period, and throughout my entire career, the nature of my practice has required me to be aware of any regulations that would restrict the use of any building materials, including asbestos-containing surfacing materials. As part of my professional responsibilities, I have been in regular contact with government officials and other regulatory authorities in Canada responsible for setting standards and giving guidance to project managers, engineers, architects and specification writers and other construction professionals. During the Relevant Time Period, there were, to my knowledge, no regulations in Canada prohibiting the sale or installation, including by spraying, of asbestos-containing surface materials within buildings.

IV. UTILITY OF ASBESTOS-CONTAINING ACOUSTICAL PLASTER AND SPRAYED FIREPROOFING

Acoustical plaster was used for sound-transfer reduction. Asbestos fibers added significant tensile strength to the cured plaster, which reduced cracking, enhanced resistance to physical damage and, in addition, improved the fire rating of the building structures to which the product was applied. (Fire ratings are measures of the time it takes for excessive heat-transfer to degrade the structural member or other building component being protected.)

The purpose of sprayed fireproofing was to make buildings safer during fires. Sprayed fireproofing could be installed to various thicknesses (depending on the specified fire rating) to achieve extended protection during fires that could threaten both life and property. Without sprayed fireproofing, in order to achieve even low fire ratings, design professionals would have had to increase significantly the dimensions of steel components so as to resist the heat degradation that results from fires. Moreover, to achieve high (1-2 hours) ratings, without sprayed fireproofing, it would have been necessary to add more steel plus lath and plaster. That in turn would have led to buildings that had greater susceptibility to lateral movement, caused, for example, by seismic disturbances and adverse weather conditions.

It was generally accepted by engineers and regulatory authorities in Canada during the Relevant Time Period that asbestos was an efficient and durable ingredient in the

composition of sprayed fireproofing. Asbestos had several attractive qualities. First, it allowed the product to be sprayed effectively. The inclusion of asbestos produced a plastic mix consistency which when sprayed tended not to segregate, and thus the likelihood of overspray was reduced. Second, the asbestos in the fireproofing helped to bind the fibers and prevent the creation of weak spots in the installed product. Third, asbestos is a material that retains its physical qualities, including strength, at the very high temperatures that are achieved in major building fires.

During the Relevant Time Period, I was engaged on more than 100 building projects in which my mandate included fire systems consulting, such as: design review of fire separations; inspection of asbestos-containing fire-resisting materials including MK-3, both during application (e.g., as they were being sprayed) and as installed; measuring adhesion of the sprayed system to the substrate; quantifying thickness of application and, as appropriate, indicating in writing my acceptance of the installation. As a result of this experience, I concluded that asbestos-containing MK-3 was highly regarded by those involved in the construction process, including architects, structural engineers, fire protection engineers, specification writers, project managers, general contractors, applicators, municipal authorities, insurance adjusters, fire marshals and fire chiefs and others with a professional interest in fire protection. MK-3 was a cementitious asbestos-containing material that was sprayed as a wet slurry and, upon drying in place, essentially became an integral part of the substrate with a firmness that provided appropriate resistance to physical damage.

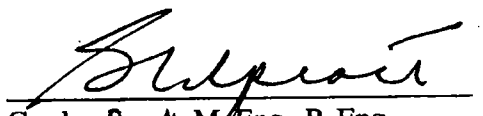
I have had personal experience with the performance of MK-3 in fire conditions. In the 1970s, there was a major fire in a large office building in Vancouver, British Columbia, then known as the Westcoast Transmission Building. The Building was of a unique design, with the office floors suspended by cable from a central tower. I was retained to carry out an investigation of the cables that suspended the concrete slab edges from the rooftop tower. In the area of the greatest heat development from the fire, the metal cover on the cable system was distorted from heat, but the MK-3 that protected the cables was in excellent condition. Moreover, the cables were undamaged, and I was able to recommend that no remedial work needed to be carried out on them. In short, I concluded that MK-3 had done a superb job of protecting the cables, which in turn were vital to the Building's stability. Approximately three years ago, I was retained by the new owner of the Building to inspect all of its structural systems. The MK-3 that had been installed some 40 years ago in the 1960's and had functioned extremely well in a major fire was in excellent condition in all inspected locations. There was only minor degradation at areas where the curtain wall had leaked and allowed ingress of water to reach some minor locations and thereby caused the fireproofing to be degraded.

V. CONCLUSION

1. In my opinion, the use of asbestos-containing sprayed fireproofing such as MK-3 and asbestos-containing acoustical plaster was consistent with industry practice and the state-of-the-art in Canada during the Relevant Time Period. Indeed, MK-3 was an exemplary product that set the industry standard for fireproofing.

2. To my knowledge, during the Relevant Time Period, there were no regulations that prohibited the use of asbestos-containing MK-3 or asbestos-containing acoustical plaster in Canada.

3. In my opinion, during the Relevant Time Period, asbestos-containing MK-3 and acoustical plaster were both extremely useful in making buildings safer and more efficient.

SIGNED: 

Gordon Spratt, M.Eng., P. Eng.

DATED: January 15, 2007.